

FDN-2726



AF/LFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants : Herbert Ulmer et al) Examiner Rip A. Lee
Serial No. : 10/720,912) Group Art Unit 1713
Filed : 11/24/2003)
For : TOUGH POLYMERS

1361 Alps Road
Wayne, NJ 07470

MAY 25, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

BRIEF ON APPEAL

This Appeal Brief is submitted in reply to the Examiner's communication mailed 02/03/06 responding to appellant's Amendment under 37 CFR 1.116 mailed 01/20/06 and to the Final Rejection of 01/05/2006. A timely Notice of Appeal was mailed on 04/03/06.

The Commissioner is hereby authorized to charge the \$500 fee for filing this Brief on Appeal to ISP Investments Inc., Deposit Account No. 07-0650.

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1. REAL PARTY IN INTEREST

ISP INVESTMENTS INC., a corporation of Delaware, having a place of business at 300 Delaware Avenue, Wilmington, Delaware 19801, is the owner of the entire right, title and interest in the appealed application.

2. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences related to this application are known to appellants or to said assignee of the entire right, title and interest.

3. STATUS OF ALL CLAIMS

The claims pending in this application are independent claim 2 and dependent claims 3-9.

4. STATUS OF AMENDMENTS

This appeal is directed to independent claim 2 and dependent claims 3-9. On January 20, 2006 Appellants submitted an amendment under 37 CFR 1.116 amending claim 2 to obviate the objection of informality.

The Request for Reconsideration was considered but the Amendment was not entered because it did not place the application in condition for allowance.

5. REFERENCES CITED

<u>U.S. PATENT</u>	<u>DATE</u>	<u>INVENTOR</u>	<u>CLASS/SUBCLASS</u>
5,789,488	08-1998	Bair et al.	525/328.4
4,283,384	08-1981	Jacquet et al.	424/47

6. SUMMARY OF THE INVENTION

This invention is directed to a tough polymer which is composed of polyvinyl alcohol grafted in an amount of 1-99 wt.% with a water or alcohol soluble or dispersible monomer selected from vinyl caprolactam, 2-[[[(butylamino)carbonyl]oxy]ethyl acrylate, or their quats, acrylic acid, tetrahydrofurfurylmethacrylate, hydroxyethylmethacrylate, vinyl pyridine, ethoxylated acrylates, methacrylic acid, methylmethacrylate, (2-methacryloxy)ethyl trimethylammonium sulfate, 1-vinylimidazole, styrene, silicone (eth-, meth-)acrylates, fluoro(eth-, meth-)acrylates, and mixtures thereof. The invention also includes solutions of the tough polymer, processes for making the same, and, personal care products including hair care products, and, particularly, cosmetic or dermatological, film-forming compositions of such tough polymers which produce a water-resistant film demonstrating excellent hold and durability properties on the hair of the user.

7. STATUS OF ISSUES PRESENTED

Claims 2-6 were rejected under 35 U.S.C. 102(b) on Bair ('488). The Examiner has alleged that Bair discloses a polyvinyl alcohol polymer grafted with water soluble/dispersible cationic 2-methacryloyloxyethyl trimethyl ammonium chloride (METAC), dimethylaminoethyl methacrylate (DMAEMA), dimethylaminopropyl

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methacrylamide (DMAPMA). Bair was seen to suggest that anionic and nonionic monomers including those listed by the Examiner can be grafted onto polyvinyl alcohol with or without the cationic monomer.

Claims 2-9 also were rejected under 35 U.S.C. 102(b) on Jacquet ('384). The Examiner has alleged that Jacquet prepared a 50:50 graft copolymer of quaternized dimethyl aminoethyl methacrylate onto polyvinyl alcohol.

8. GROUPING OF CLAIMS

The independent claim 2 and dependent claims 3-9 are intended to stand separately and are not to be grouped together.

9. THE ARGUMENT

The Bair reference is seen to be directed only to the use of cerium compounds as initiator for the polymerization of polyvinyl alcohol and a cationic monomer (METAC) and for the use of such graft polymers in clarifying waste water systems. Furthermore, no examples are present in the Bair specification which describe grafting of polyvinyl alcohol with other monomers, or of the amount of such monomer which can be grafted.

In contrast, in this invention, the monomers which are grafted onto polyvinyl alcohol are present in a defined Markush group in claim 2 which does not include METAC, DMAEMA or DMAPMA. The latter two monomers are used optionally only in combination with the primary monomers in claim 2.

In the present invention, in further contrast to Bair, the novel tough polymers readily form solutions which are advantageously used in personal care products such as hair care, because they form tough, yet flexible films on the hair of the user, are water-resistant, and demonstrate excellent hold and durability properties, none of which are considered by Bair.

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With respect to Jacquet, claim 2 herein includes a Markush group of monomers not shown or described in the reference which excludes quaternized dimethyl aminoethyl methacrylate. This monomer is present in claim 2 as an optional monomer only in combination with the primary monomers of the Markush group. Furthermore, the advantageous properties of the claimed tough polymer of this invention for cosmetic compositions are not apparent from the description in the reference, which compositions and properties are present in dependent claims 7-9.

10. CONCLUSION

In the light of the above discussion, appellants respectfully request the Honorable Board to reverse the rejection of claims 2-9 under 35 U.S.C. 102(b) and indicate the patentability of these claims.

Respectfully submitted,



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CLAIMS ON APPEAL

Claim 2. A tough polymer which is polyvinyl alcohol grafted in an amount of 1-99 wt.% with a water or alcohol soluble or dispersible monomer selected from vinyl caprolactam, 2-[[[(butylamino)carbonyl]oxy]ethyl acrylate, or their quats, acrylic acid, tetrahydrofurfurylmethacrylate, hydroxyethylmethacrylate, vinyl pyridine, ethoxylated acrylates, methacrylic acid, methylmethacrylate, (2-methacryloxy)ethyl trimethylammonium sulfate, 1-vinylimidazole, styrene, silicone (eth-, meth-)acrylates, fluoro(eth-, meth-)acrylates, and mixtures thereof, optionally including vinyl pyrrolidone, dimethylaminoethyl methacrylate, and/or dimethylaminopropyl methacrylamide.

Claim 3. A tough polymer according to claim 2 in which the polyvinyl alcohol is processed with 1-50 wt. % with said water or ethanol soluble or dispersible monomer.

Claim 4. A solution according to claim 2 in which said polymer is dissolved in a solvent selected from water, alcohol, water-alcohol, water-hydrocarbon, or water-alcohol-hydrocarbon mixtures.

Claim 5. A process for making the solution of claim 4 which comprises grafting polyvinyl alcohol with a water or alcohol soluble or dispersible monomer in a solvent which is water, alcohol, hydrocarbon, water-alcohol, water-hydrocarbon, or water-alcohol-hydrocarbon mixtures in the presence of an initiator.

Claim 6. A process according to claim 5 wherein said free radical or redox initiator is H_2O_2 , ceric complexes, ammonium persulfate, sodium persulfate, potassium persulfate, cumene peroxide, t-butylperoxypivalate, or benzoyl peroxide, ferric chloride, hydrogen peroxide-iron, hydrogen peroxide-copper, azo, and mixtures thereof, or the like.

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Claim 7. A personal care product including the tough polymer of claim 2.

Claim 8. A hair care product according to claim 7 which forms a tough, yet flexible film on the hair of the user, which is soluble or dispersible in water, alcohol, water-alcohol, water-hydrocarbon, or water-alcohol-hydrocarbon mixtures.

Claim 9. A cosmetic or dermatological, film-forming composition according to claim 7 for producing a water-resistant film demonstrating excellent hold and durability properties.

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